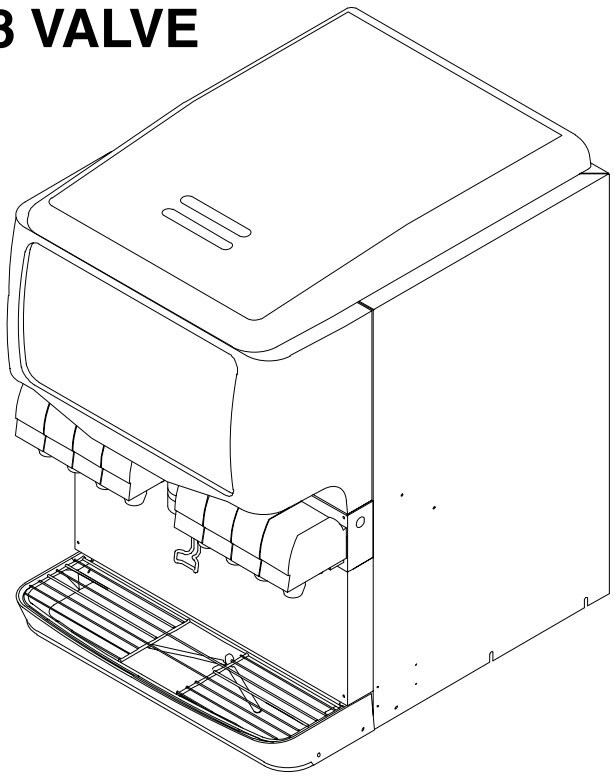
IMI CORNELIUS REMCOR INC ■ 500 REGENCY DRIVE ■ GLENDALE HEIGHTS, IL 60139–2268

Telephone (800) 551–4423 Facsimile (800) 519–4423

Installation Manual
ICE/BEVERAGE DISPENSER
MODEL: ENDURO–150 8 VALVE



IMPORTANT:

TO THE INSTALLER.

It is the responsibility of the Installer to ensure that the water supply to the dispensing equipment is provided with protection against backflow by an air gap as defined in ANSI/ASME A112.1.2-1979; or an approved vacuum breaker or other such method as proved effective by test.

Water pipe connections and fixtures directly connected to a potable water supply shall be sized, installed, and maintained according to Federal, State, and Local Codes.

Part No. 620904401
February, 1997
Revised May 18, 1999
Revision B

THIS DOCUMENT CONTAINS IMPORTANT INFORMATION
This Manual must be read and understood before installing or operating this equipment

© IMI CORNELIUS INC; 1997 –99

PRINTED IN U.S.A

TABLE OF CONTENTS

	Page
SAFETY PRECAUTIONS	**1**
DESCRIPTION	1
SPECIFICATIONS	1
INSTALLATION INSTRUCTIONS	**2**
ICE DIVERTER KIT 02394	3
GATE RESTRICTOR PLATE	4
ADJUSTMENT	4
TROUBLESHOOTING	**9**
BLOWN FUSE OR CIRCUIT BREAKER.	9
GATE DOES NOT OPEN. AGITATOR DOES NOT TURN.	9
GATE DOES NOT OPEN OR IS SLUGGISH. AGITATOR TURNS.	9
ICE DISPENSES CONTINUOUSLY.	9
SLUSHY ICE. WATER IN HOPPER.	9
BEVERAGES DO NOT DISPENSE.	9
BEVERAGES TOO SWEET.	9
BEVERAGE NOT SWEET ENOUGH.	10
BEVERAGES NOT COLD (UNITS WITH BUILT-IN COLD PLATE).	10
WARRANTY	**15**

LIST OF FIGURES

FIGURE 1. ICE DIVERTER KIT	3
FIGURE 2. GATE RESTRICTOR PLATE	4
FIGURE 3. MOUNTING TEMPLATE	5
FIGURE 4. DRIP TRAY DRAIN ASSEMBLY	6
FIGURE 5. FLOW DIAGRAM (BC MODELS WITH EIGHT BEVERAGE FAUCETS)	7
FIGURE 6. FLOW DIAGRAM (B MODELS WITH EIGHT BEVERAGE FAUCETS)	8
FIGURE 7. WIRING DIAGRAM (120V)	11
FIGURE 8. WIRING SCHEMATIC (120V)	12
FIGURE 9. WIRING DIAGRAM (220V)	13
FIGURE 10. WIRING SCHEMATIC (220 V)	14

SAFETY PRECAUTIONS

This ice dispenser has been specifically designed to provide protection against personal injury and eliminates contamination of ice. To ensure continued protection and sanitation, observe the following:

ALWAYS: disconnect power to the dispenser before servicing or cleaning.

NEVER: **place hands inside of hopper or gate area without disconnecting power to the dispenser. Agitator rotation occurs automatically when dispenser is energized!**

ALWAYS: be sure the removable lid is properly installed to prevent unauthorized access to the hopper interior and possible contamination of the ice.

ALWAYS: be sure the upper and lower front panels are securely fastened.

ALWAYS: keep area around the dispenser clean of ice cubes.

CAUTION: Dispenser cannot be used with crushed or flaked ice. Use of bagged ice, which has frozen into large chunks, can void warranty. The dispenser agitator is not designed to be an ice crusher. Use of large chunks of ice which "jam up" inside the hopper will cause failure of the agitator motor and damage to the hopper. If bagged ice is used, it must be carefully and completely broken into small, cube-sized pieces before filling into the dispenser hopper.

DESCRIPTION

The "ENDURO" series of ice dispensers solves your ice and beverage service needs in a sanitary, space saving, economical way. Designed to be manually filled with ice from any remote ice-making source, these dispensers will dispense cubes (up to 1-1/4 inch in size), cubelets and hard-chipped or cracked ice; and, in addition, several flavors of post-mix beverages. "BC" units include beverage faucets and a cold plate and are designed to be supplied direct from syrup tanks and carbonator, with no additional cooling required.

IMPORTANT: For dispensing compressed or extruded style ice, an Ice Diverter Kit must be installed on the dispenser (see Figure 1).

SPECIFICATIONS

Model Descriptions:	ED150 – B (Beverage Faucets) C (Cold Plate) Z (No Drip Tray)
Ice Storage:	150 lbs
Maximum Number of Faucets Available:	8
Built-in Cold Plate:	Yes, on BC models only
Electrical:	120/1/60, 3.0 Amps total unit draw 220–240/1/50/60, 2.0 Amps total unit draw
Dimensions:	Std unit = 24–1/2 in. Wide X 30–11/16in. Deep X 35–5/8 in. High Z–Model = 24–1/2in. Wide X 23–1/16 in. Deep X 35–5/8 in. High

INSTALLATION INSTRUCTIONS

IMPORTANT: TO THE INSTALLER.

It is the responsibility of the Installer to ensure that the water supply to the dispensing equipment is provided with protection against backflow by an air gap as defined in ANSI/ASME A112. 1.2-1979; or an approved vacuum breaker or other such method as proved effective by test.

Water pipe connections and fixtures directly connected to a potable water supply shall be sized, installed, and maintained according to Federal, State, and Local laws.

1. Locate the dispenser indoors on a level counter top.

   A. LEG OPTION

      Unpack the four (4) legs and install them into the threaded holes provided in the bottom of the unit. The installer must provide flexibility in the product and utility supply to permit shifting the position of the dispenser sufficiently to clean the area beneath it.

NOTE: **Before installing legs, the plastic plugs must be removed.**

   B. COUNTER MOUNTING

      The ice dispenser must be sealed to the counter. The template drawing (see Figure 3) indicates where openings can be cut in the counter. Locate the desired position for the dispenser, then mark the outline dimensions on the counter using the template drawings. Cut openings in counter.

      Apply a continuous bead of *NSF International* (NSF) silastic sealant (Dow 732 or equal) approximately 1/4" inside of the unit outline dimensions and around all openings. Then, position the unit on the counter within the outline dimensions. All excess sealant must be wiped away immediately.

2. The beverage tubes, drain tube and power cord are routed through the large opening in the bottom of the unit. See the MOUNTING TEMPLATE (Figure 3) for locating the required clearance opening in the counter for these utility lines.

3. DRIP TRAY DRAIN ASSEMBLY (see Figure 4): Route the drain tube to an open drain with the end of the tube above the "flood" level of the drain. Use the tubing, fittings, clamps, and insulation provided with the Dispenser to assemble the drain. The completed drain line *must* pitch continuously downward and contain no "traps" or improper drainage will result.

NOTE: This equipment must be installed with adequate backflow protection to comply with federal, state, and local codes.

4. Connect the beverage system product tubes as indicated in applicable Flow Diagram Figure 6 or 7. This work should be done by a qualified service person.

NOTE: See applicable Flow Diagram (see Figure 6 or 7) or Decal on the lower front of the unit for the location of syrup and water connections.

5. Clean the hopper interior (see CLEANING INSTRUCTIONS in Owner's Manual).

6. Connect the power cord to a 120 volt, 60 cycle, 3-wire grounded receptacle. For 220–240 Volt International Units, a 3–wire power cord is provided. An adapter plug for the particular country will need to be provided by the Installer.

ICE DIVERTER KIT 02394

NOTE: For dispensing Scotsman, Wilshire, and Hoshizaki compressed ice cubes:

1. Disconnect power to dispenser.
2. Remove Merchandiser from dispenser.
3. Remove ice chute and discard gate restrictor.
4. Install ice diverter on gate mounting plate as shown below.
5. Apply RTV to back surface of ice diverter, to seal to gate mounting plate.
6. Reinstall gasket and ice chute.
7. Reinstall merchandiser and energize unit.

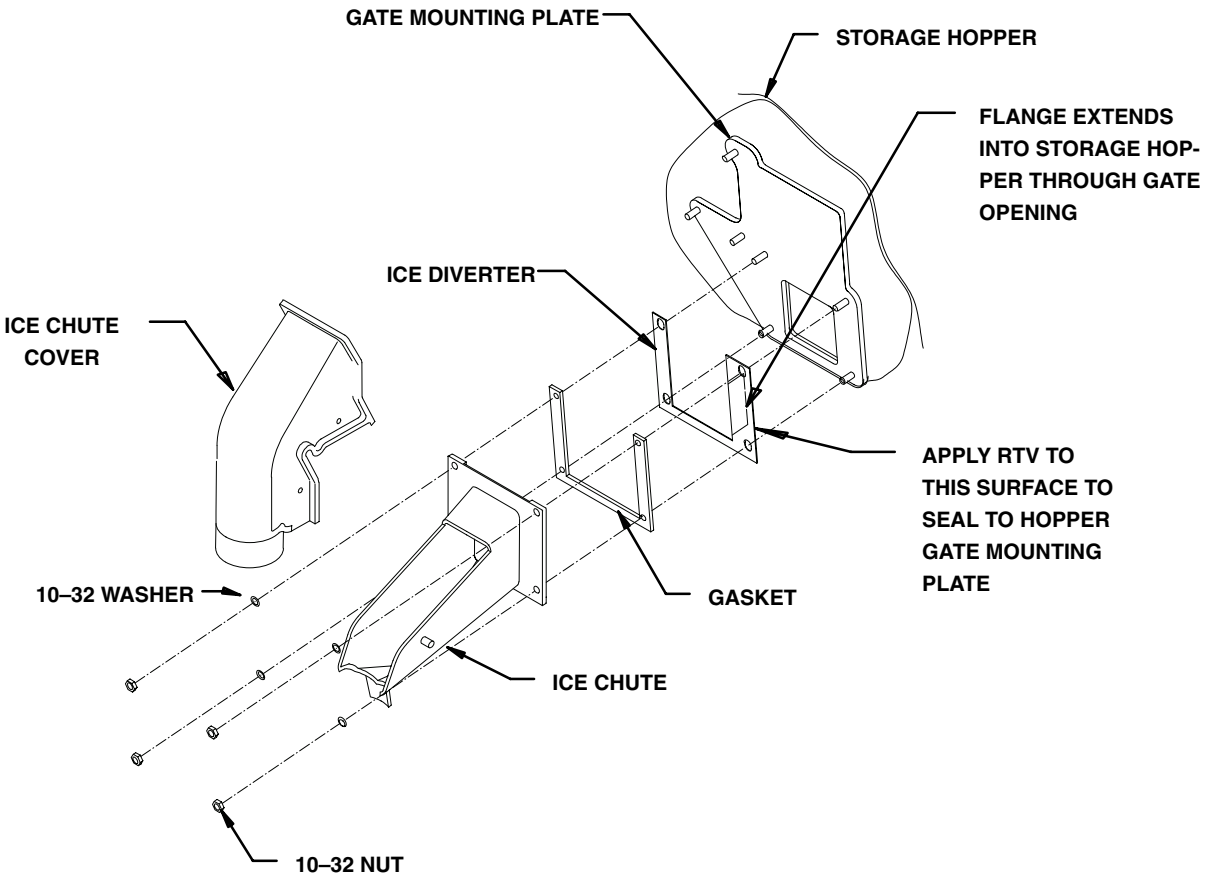


FIGURE 1. ICE DIVERTER KIT

GATE RESTRICTOR PLATE

CAUTION: Disconnect power to dispenser before installing, removing or adjusting restrictor.

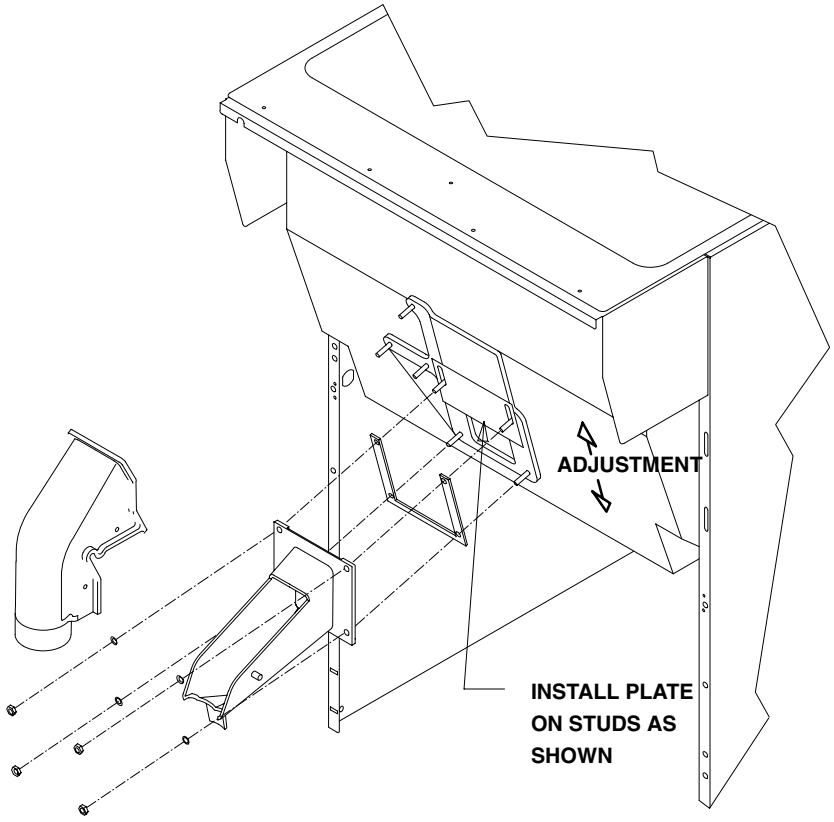
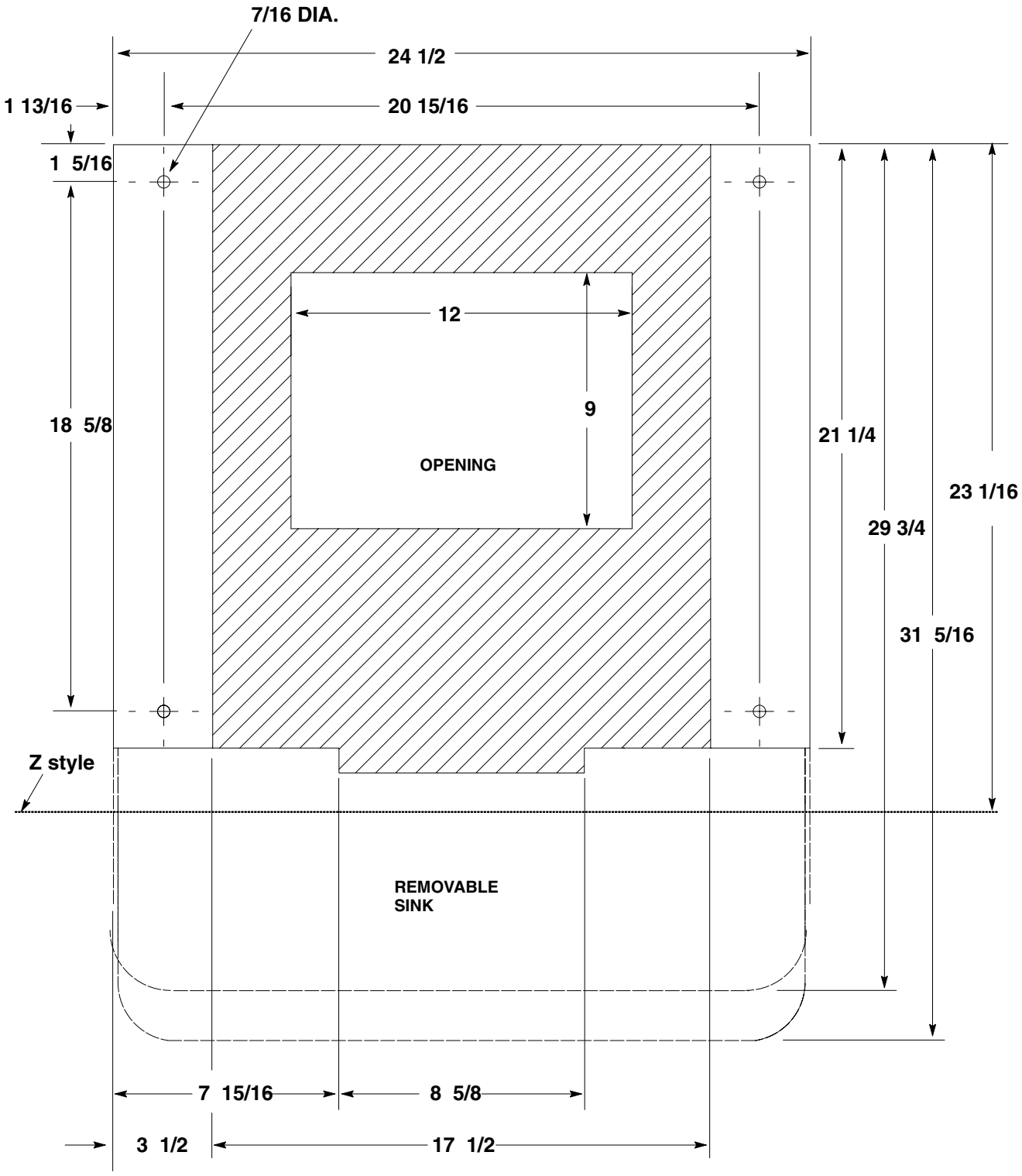


FIGURE 2. GATE RESTRICTOR PLATE

ADJUSTMENT

This plate may be adjusted as shown to reduce or increase the dispensing rate of ice, especially desirable when using glasses or other containers with small openings. Adjustment can be made by sliding up or down with nuts loosened, to obtain the desired amount of restriction.



RECOMMENDED COUNTER OPENING SIZE 9" X 12" FOR UTILITIES AND BEVERAGE TUBING. OPENING CAN BE LOCATED ANYWHERE WITHIN THE SHADED AREA.

FIGURE 3. MOUNTING TEMPLATE

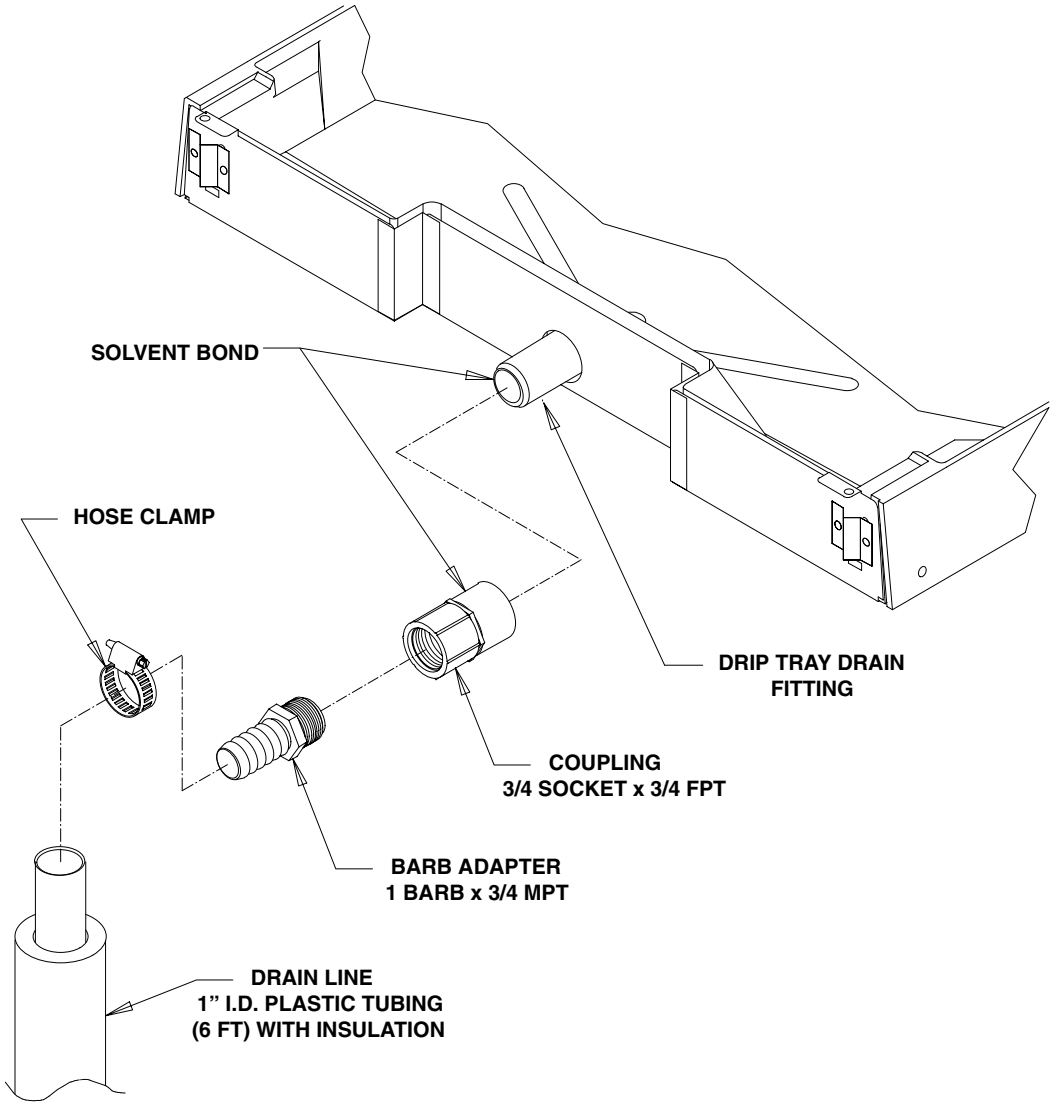


FIGURE 4. DRIP TRAY DRAIN ASSEMBLY

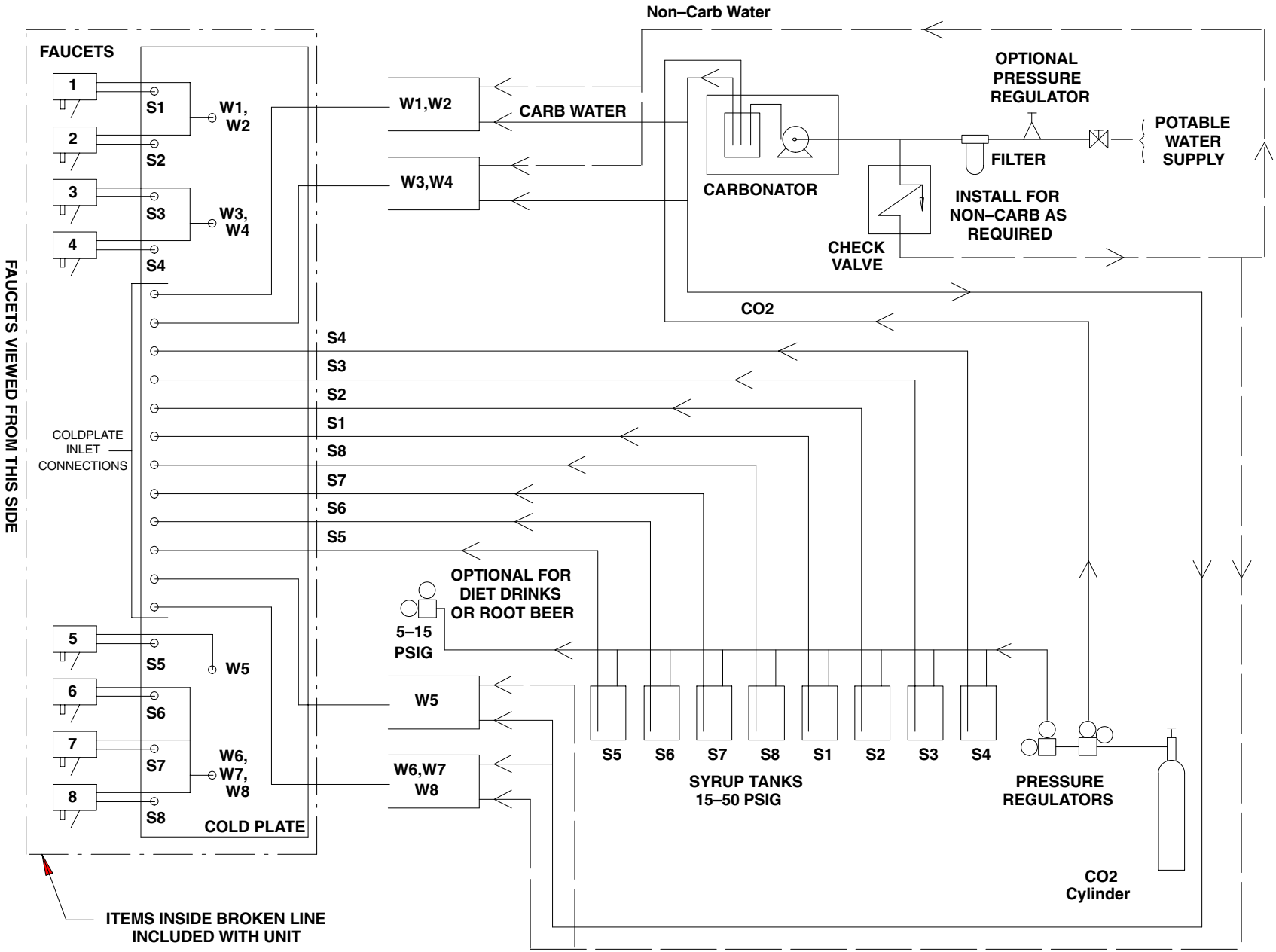


FIGURE 5. FLOW DIAGRAM (BC MODELS WITH EIGHT BEVERAGE FAUCETS)

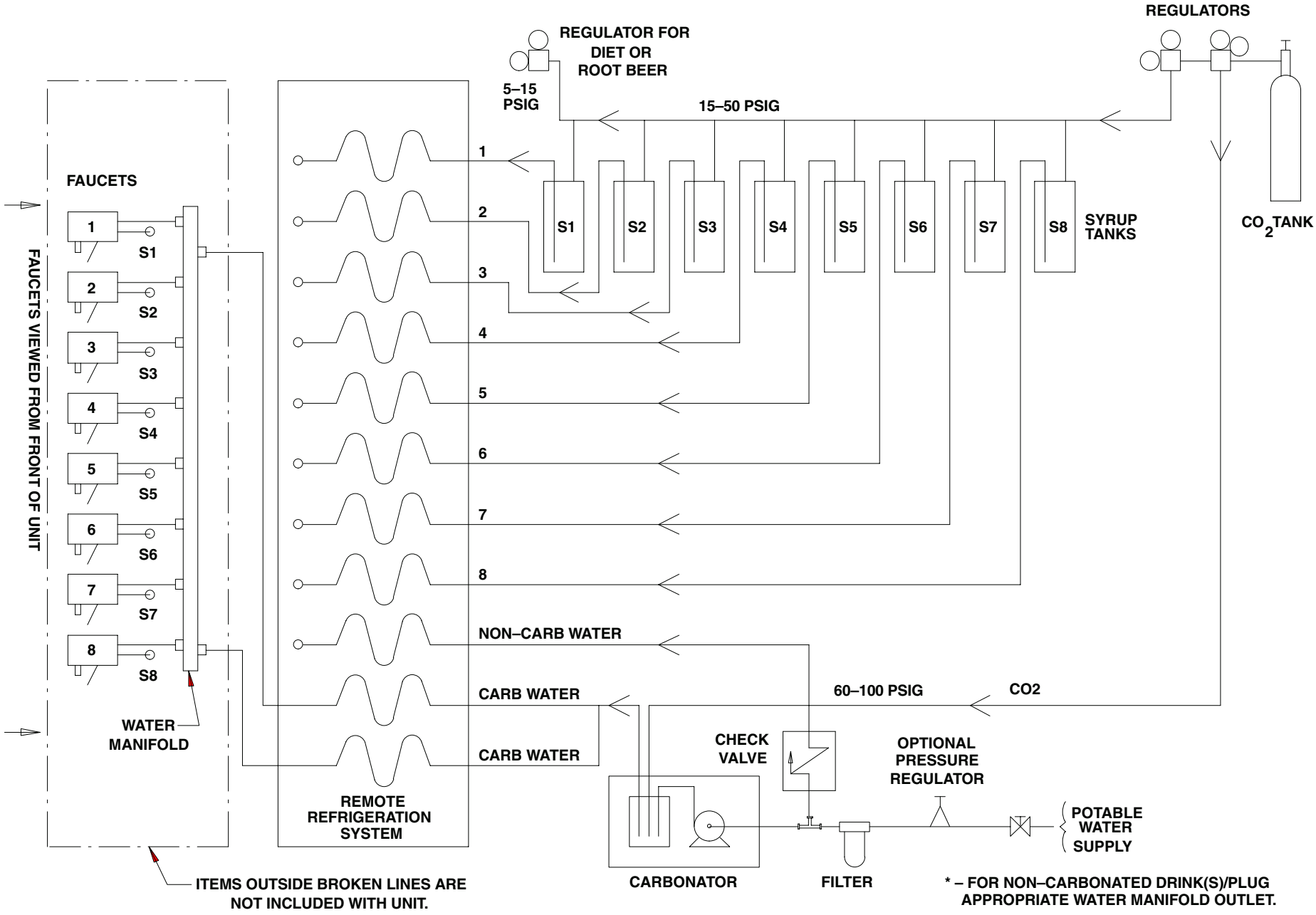


FIGURE 6. FLOW DIAGRAM (B MODELS WITH EIGHT BEVERAGE FAUCETS)

TROUBLESHOOTING

IMPORTANT: Only qualified personnel should service internal components or electrical wiring.

WARNING: If repairs are to be made to a product system, remove quick disconnects from the applicable product tank, then relieve the system pressure before proceeding. If repairs are to be made to the CO_2 system, stop dispensing, shut off the CO_2 supply, then relieve the system pressure before proceeding. If repairs are to be made to the refrigeration system, make sure electrical power is disconnected from the unit.

Should your unit fail to operate properly, check that there is power to the unit and that the hopper contains ice. If the unit does not dispense, check the following chart under the appropriate symptoms to aid in locating the defect.

Trouble	Probable Cause
BLOWN FUSE OR CIRCUIT BREAKER.	A. Short circuit in wiring.
	B. Defective gate solenoid.
	C. Defective agitator motor.
GATE DOES NOT OPEN. AGITATOR DOES NOT TURN.	A. No power.
	B. Bent depressor plate (does not actuate switch).
	C. Defective dispensing switch.
GATE DOES NOT OPEN OR IS SLUGGISH. AGITATOR TURNS.	A. Defective gate solenoid.
	B. Excessive pressure against gate slide.
	C. Defective Rectifier.
ICE DISPENSES CONTINUOUSLY.	A. Stuck or bent depressor plate (does not release switch).
	B. Defective dispensing switch.
	C. Improper switch installation.
SLUSHY ICE. WATER IN HOPPER.	A. Blocked drain.
	B. Unit not level.
	C. Poor ice quality due to water quality or icemaker problems.
	D. Improper use of flaked ice.
BEVERAGES DO NOT DISPENSE.	A. No 24 volt power to faucets.
	B. No CO_2 pressure.
BEVERAGES TOO SWEET.	A. Carbonator not working.
	B. No CO_2 pressure in carbonator.
	C. Faucet brix requires adjusting.

Trouble	Probable Cause
BEVERAGE NOT SWEET ENOUGH.	A. Empty syrup tank.
	B. Faucet brix requires adjusting.
BEVERAGES NOT COLD (UNITS WITH BUILT-IN COLD PLATE).	A. Unit standing with no ice in hopper – no ice in cold plate cabinet.

Contact your local syrup or beverage equipment distributor for additional information and troubleshooting of beverage system.

DANGER! ELECTRIC SHOCK HAZARD. DISCONNECT POWER BEFORE SERVICING UNIT.

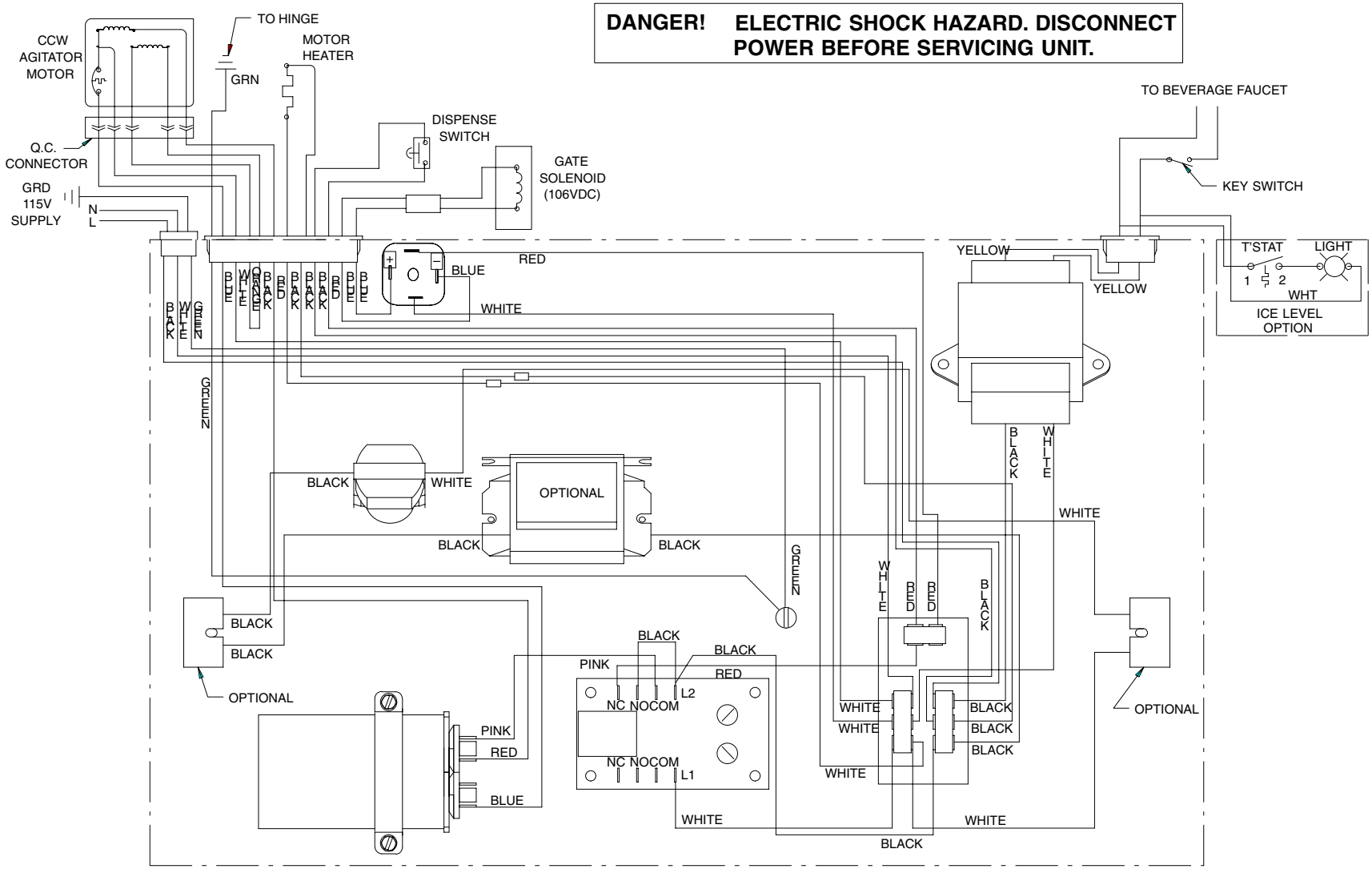


FIGURE 7. WIRING DIAGRAM (120V)

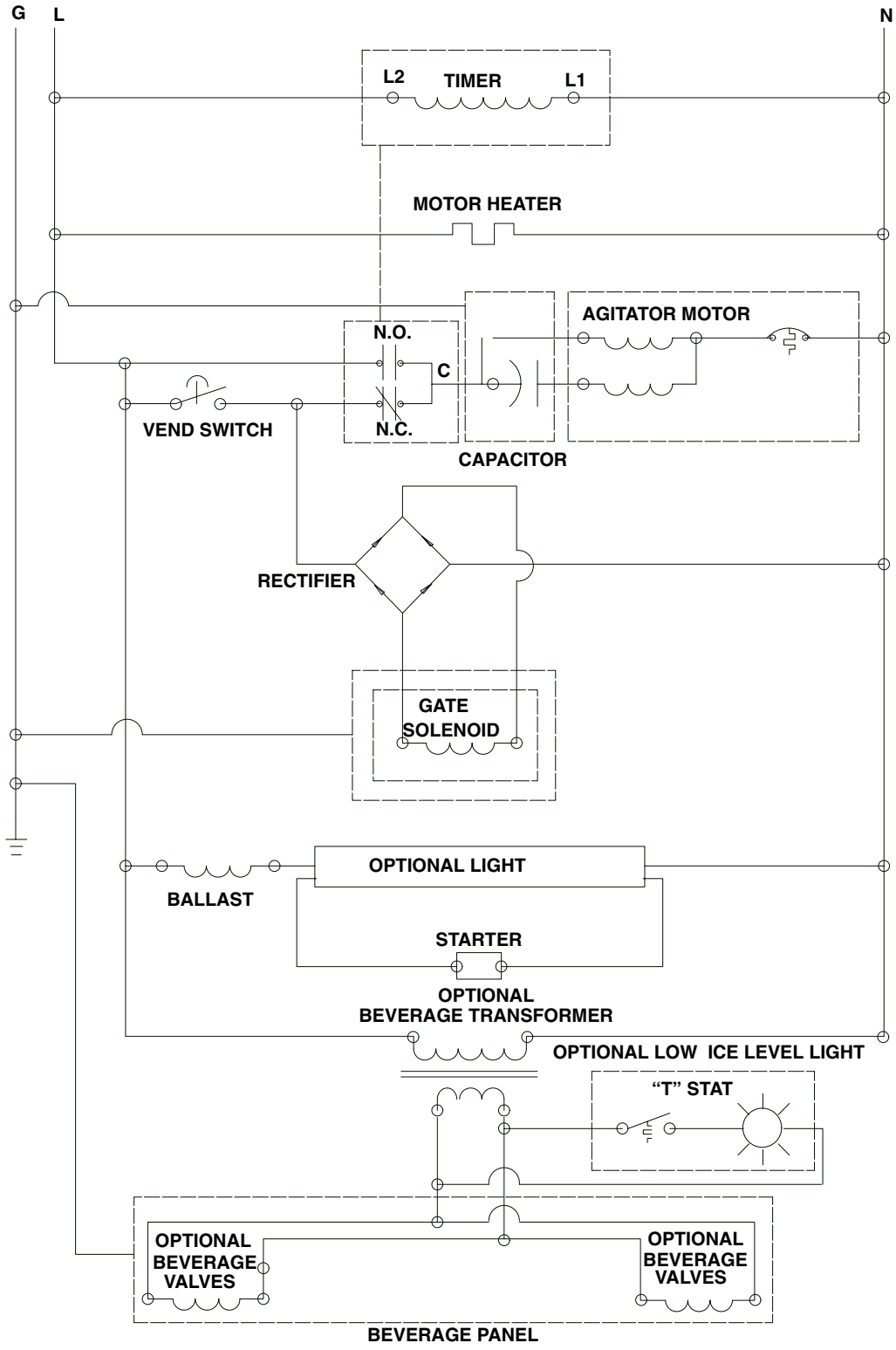


FIGURE 8. WIRING SCHEMATIC (120V)

SERVICE INFORMATION

DANGER! ELECTRIC SHOCK HAZARD. DISCONNECT POWER BEFORE SERVICING UNIT.

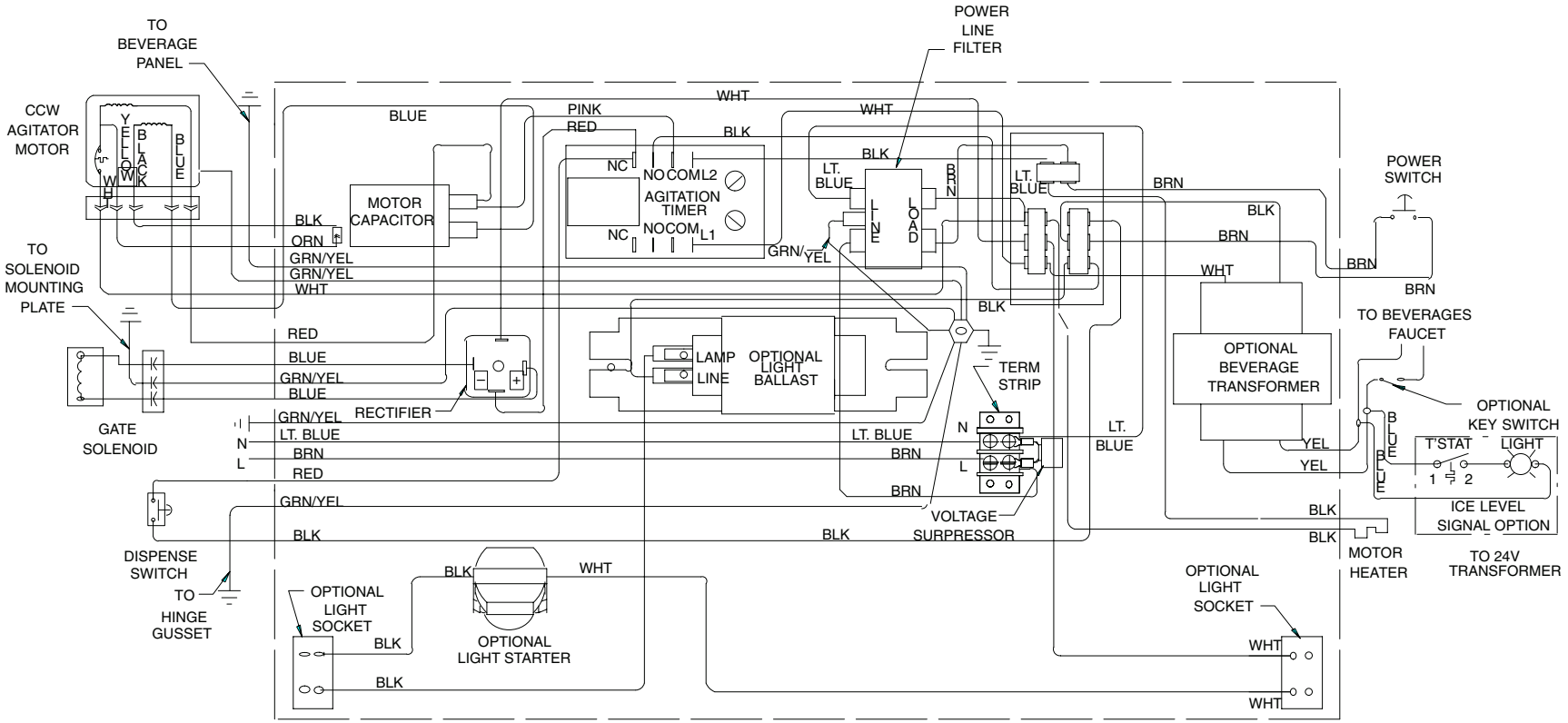


FIGURE 9. WIRING DIAGRAM (220V)

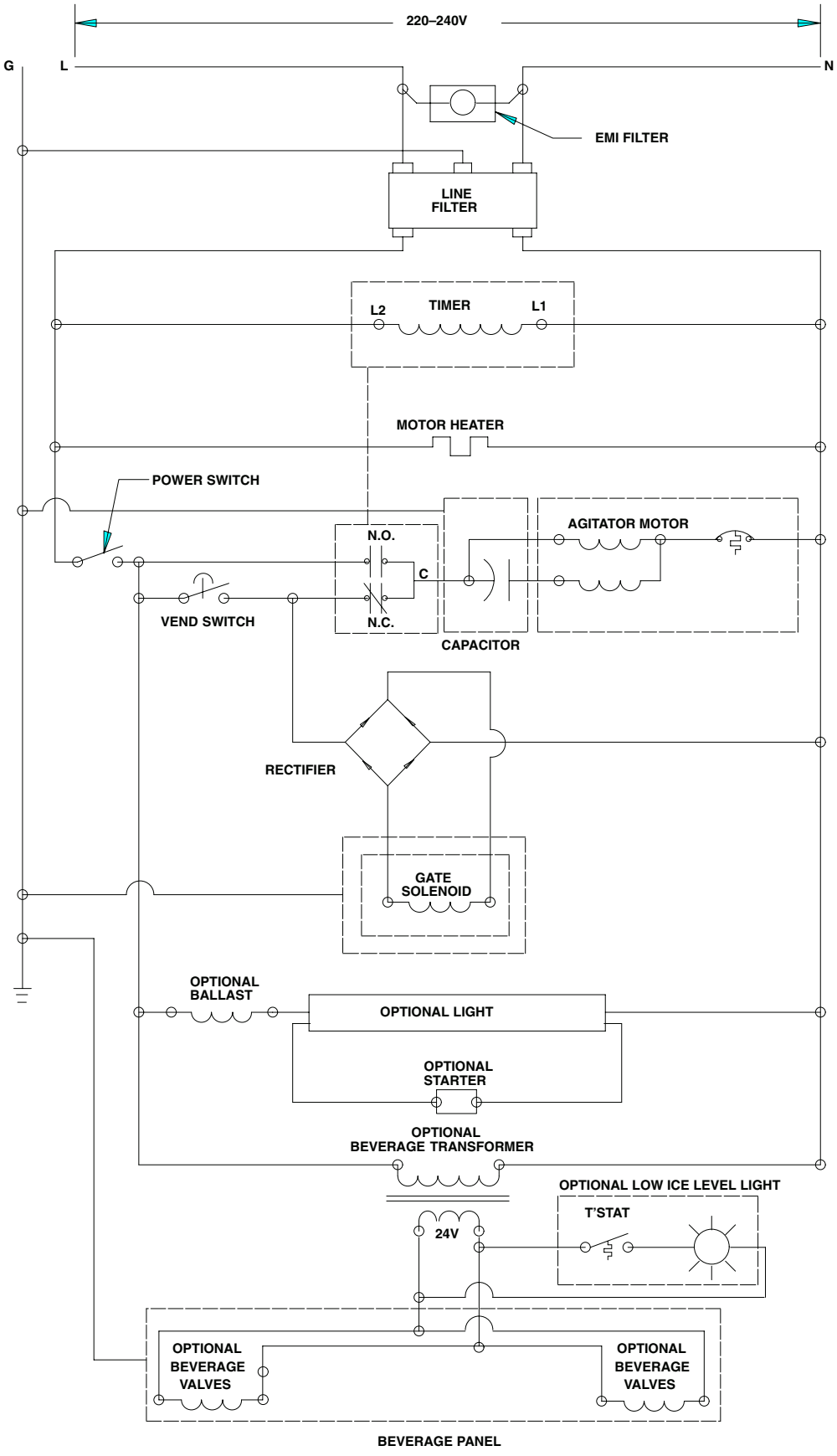


FIGURE 10. WIRING SCHEMATIC (220 V)

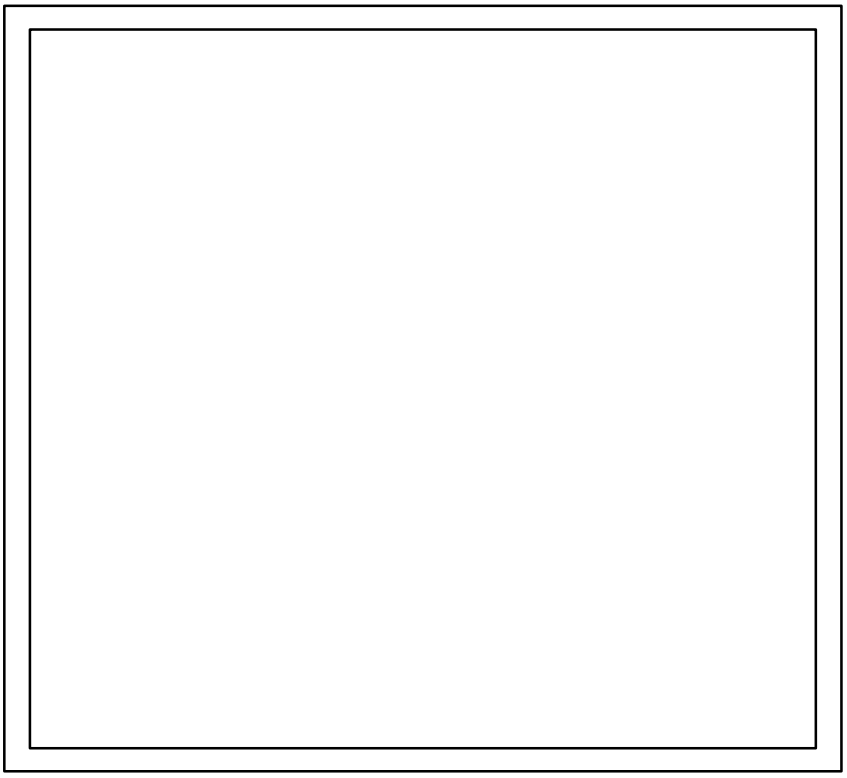
IMI CORNELIUS INC.
ONE CORNELIUS PLACE
ANOKA, MN. 55303–6234
TELEPHONE (800) 238–3600
FACSIMILE (612) 422–3232

WARRANTY

IMI Cornelius Inc. and Remcor Products Company warrant that all equipment and parts are free from defects in material and workmanship under normal use and service. For a copy of the warranty applicable to your Cornelius and or Remcor product, in your country, please write, fax or telephone the IMI Cornelius office nearest you. Please provide the equipment model number and the date of purchase.

IMI Cornelius Offices

AUSTRALIA ● P.O. 210, ● RIVERWOOD, ● NSW 2210, AUSTRALIA ● (61) 2 533 3122 ● FAX (61) 2 534 2166
AUSTRIA ● AM LANGEN FELDE 32 ● A-1222 ● VIENNA, AUSTRIA ● (43) 1 233 520 ● FAX (43) 1-2335-2930
BELGIUM ● BOSKAPELLEI 122 ● B-2930 BRAASCHAAT, BELGIUM ● (32) 3 664 0552 ● FAX (32) 3 665 2307
BRAZIL ● RUA ITAOCARA 97 ● TOMAS COELHO ● RIO DE JANEIRO, BRAZIL ● (55) 21 591 7150 ● FAX (55) 21 593 1829
ENGLAND ● TYTHING ROAD ALCESTER ● WARWICKSHIRE, B49 6 EU, ENGLAND ● (44) 789 763 101 ● FAX (44) 789 763 644
FRANCE ● 71 ROUTE DE ST. DENIS ● F-95170 DEUIL LA BARRE ● PARIS, FRANCE ● (33) 1 34 28 6200 ● FAX (33) 1 34 28 6201
GERMANY ● CARL LEVERKUS STRASSE 15 ● D-4018 LANGENFELD, GERMANY ● (49) 2173 7930 ● FAX (49) 2173 77 438
GREECE ● 488 MESSOGION AVENUE ● AGIA PARASKEVI ● 153 42 ● ATHENS, GREECE ● (30) 1 600 1073 ● FAX (30) 1 601 2491
HONG KONG ● 1104 TAIKOTSUI CENTRE ● 11-15 KOK CHEUNG ST ● TAIKOKTSUE, HONG KONG ● (852) 789 9882 ● FAX (852) 391 6222
ITALY ● VIA PELLIZZARI 11 ● 1-20059 ● VIMARCATE, ITALY ● (39) 39 608 0817 ● FAX (39) 39 608 0814
NEW ZEALAND ● 20 LANSFORD CRES. ● P.O. BOX 19-044 AVONDALE ● AUCKLAND 7, NEW ZEALAND ● (64) 9 8200 357 ● FAX (64) 9 8200 361
SINGAPORE ● 16 TUAS STREET ● SINGAPORE 2263 ● (65) 862 5542 ● FAX (65) 862 5604
SPAIN ● POLIGONO INDUSTRAIL ● RIERA DEL FONOLLAR ● E-08830 SANT BOI DE LLOBREGAT ● BARCELONA, SPAIN ● (34) 3 640 2839 ● FAX (34) 3 654 3379
USA ● ONE CORNELIUS PLACE ● ANOKA, MINNESOTA ● (612) 421-6120 ● FAX (612) 422-3255



IMI CORNELIUS INC.

Corporate Headquarters:

One Cornelius Place
Anoka, Minnesota 55303-6234
(612) 421-6120
(800) 238-3600